

AMENDMENTS TO THE CLAIMS

Claims 1-6 (Canceled).

Claim 7 (Currently Amended): A complex material composed of crystalline superfine particles having a grain size in the range from 5 nm to 100 nm and the surface thereof is covered by surfactant and another material, and emitting light depending upon the time-rate-of-change of a stress applied thereto,

wherein the crystalline superfine particle has a composition expressed by the general formula $A_xB_yO_z$ where

$$0.8 \leq x \leq 1.1 \quad 1.8 \leq y \leq 2.2$$

$$\{(2x+3y)/2\} - 0.2 < z < \{(2x+3y)/2\} + 0.2$$

$$A = Sr_k Ba_j Ca_m Mg_n \quad (0 \leq k, l, m, n \leq 1, k+l+m+n = 1)$$

$$B = Al_{1-p} Dp \quad (0 \leq p < 1)$$

$$D = Y_q Ga_r In_t \quad (0 \leq q, r, t \leq 1, q+r+t = 1)$$

wherein a rare earth element or a transition metal element is added by 0.2 mol or less in total relative to 1 mol of $A_xB_yO_z$,

wherein weight percent of the crystalline superfine particles to the other material is from 30% to 80%.

Claim 8 (Original): The complex material according to claim 7 wherein the other material is a transparent material.

Claim 9 (Original): The complex material according to claim 7 wherein the other material is a resin.

Claim 10 (Original): The complex material according to claim 9 wherein the resin is a photo-curing resin.

Claim 11 (Original): The complex material according to claim 7 wherein the other material is glass.

Claim 12 (Original): The complex material according to claim 7 wherein the other material is a liquid.

Claim 13 (Original): The complex material according to claim 7 wherein the crystalline superfine particles discretely disperse in the other material.

Claim 14 (Original): The complex material according to claim 7 wherein, even when the crystalline superfine particles dispersed in the other material form aggregates, maximum size of each aggregate is 100 nm.

Claim 15 (Canceled).

Claim 16 (Withdrawn): A method of manufacturing a crystalline superfine particle which emits light depending upon the time-rate-of-change of a stress applied thereto, comprising:

forming a substance in which metal ions of a metal for forming the crystalline superfine particle dissolves in water contained in a molecular aggregate which orient

hydrophilic groups of surfactant molecules inward and hydrophobic groups thereof outward in a nonpolar solvent.

Claim 17 (Withdrawn): The method according to claim 16 wherein the crystalline superfine particles has a grain size in the range from 5 nm to 100 nm.

Claim 18 (Withdrawn): The method according to claim 16 wherein concentration of the metal ions relative to the water contained in the molecular aggregate is 10 mol/l or less.

Claim 19 (Withdrawn): The method according to claim 16 wherein the crystalline superfine particle has a composition expressed by the general formula $A_xB_yO_z$

where $0.8 \leq x \leq 1.1$

$$1.8 \leq y \leq 2.2$$

$$\{(2x+3y)/2\}-0.2 < z < \{(2x+3y)/2\}+0.2$$

$$A = Sr_kBa_lCa_mMg_n$$

$$(0 \leq k, l, m, n \leq 1, k+l+m+n=1)$$

$$B = Al_{1-p}D_p \quad (0 \leq p < 1)$$

$$D = Y_qGa_rIn_t \quad (0 \leq q, r, t \leq 1, q+r+t=1),$$

wherein the metal ions in the water contained in the molecular aggregate are ions of alkaline earth metal used as the component A and ions of a metal used as the component B in the general formula, and

wherein the ratio of the ions of the alkaline earth metal as the component A relative to the ions of the metal as the component B is in the range from 0.1 to 0.5.

Claim 20 (Withdrawn): The method according to claim 19 wherein the water contained in the molecular aggregate contains 0.2 mol or less in total of a rare earth element or a transition metal element relative to 1 mol of ions of the alkaline earth metal as the component A in the general formula.

Claim 21 (Withdrawn): The method according to claim 20 wherein at least Eu is contained as the rare earth element or the transition metal element.

Claim 22 (Withdrawn): A method of manufacturing a crystalline superfine particle which emits light depending upon the time-rate-of-change of a stress applied thereto, comprising:

forming a substance in which metal ions of a metal for forming a precursor superfine particle of the crystalline superfine particle dissolves in water contained in a molecular aggregate which orient hydrophilic groups of surfactant molecules inward and hydrophobic groups thereof outward in a nonpolar solvent.

Claim 23 (Withdrawn): The method according to claim 22 wherein the crystalline superfine particles has a grain size in the range from 5 nm to 100 nm.

Claim 24 (Withdrawn): A method of manufacturing a crystalline superfine particle which emits light depending upon the time-rate-of-change of a stress applied thereto, comprising:

forming a substance in which the crystalline superfine particle is contained in water which is contained in a molecular aggregate orienting hydrophilic groups of surfactant molecules inward and hydrophobic groups thereof outward in a nonpolar solvent.

Claim 25 (Withdrawn): The method according to claim 24 wherein the crystalline superfine particles has a grain size in the range from 5 nm to 100 nm.

Claim 26 (Withdrawn): An inverted micelle to be used for manufacturing a crystalline superfine particle which emits light depending upon the time-rate-of-change of a stress applied thereto, characterized in containing metal ions of a metal for forming the crystalline superfine particle in water contained in a molecular aggregate which orients hydrophilic groups of surfactant molecules inward and hydrophobic groups thereof outward in a nonpolar solvent.

Claim 27 (Withdrawn): An inverted micelle enveloping a precursor superfine particle, which is used to manufacture a crystalline superfine particle which emits light depending upon the time-rate-of-change of a stress applied thereto, characterized in containing a precursor superfine particle in water contained in a molecular aggregate which orients hydrophilic groups of surfactant molecules inward and hydrophobic groups thereof outward in a nonpolar solvent.

Claim 28 (Withdrawn): An inverted micelle enveloping a crystalline superfine particle, which is used for manufacturing a crystalline superfine particle which emits light depending upon the time-rate-of-change of a stress applied thereto, characterized in containing the crystalline superfine particle in water contained in a molecular aggregate which orients hydrophilic groups of surfactant molecules inward and hydrophobic groups thereof outward in a nonpolar solvent.

Claim 29 (Withdrawn): A precursor superfine particle to be used for manufacturing a crystalline superfine particle which emits light depending upon the time-rate-of-change of a stress applied thereto, characterized in changing to the crystalline superfine particle when crystallized.

Claim 30 (Withdrawn): A complex material comprising:
inverted micelles to be used for manufacturing crystalline fine particles which emit light depending upon the time-rate-of-change of a stress applied thereto, in which molecular aggregates each orienting hydrophilic groups of surfactant molecules inward and hydrophobic groups thereof outward in a nonpolar solvent, and each contain water in which metal ions of a metal for forming the crystalline superfine particles are dissolved; and
another material complexed with the inverted micelles.

Claim 31 (Withdrawn): A complex material comprising:
inverted micelles enveloping precursor superfine particles to be used for manufacturing crystalline fine particles which emit light depending upon the time-rate-of-change of a stress applied thereto, in which molecular aggregates each orienting hydrophilic groups of surfactant molecules inward and hydrophobic groups thereof outward in a nonpolar solvent, and each contain water in which the precursor superfine particle is enveloped; and
another material complexed with the inverted micelles.

Claim 32 (Withdrawn): A complex material comprising:
inverted micelles enveloping crystalline superfine particles to be used for manufacturing crystalline fine particles which emit light depending upon the time-rate-of-change of a stress applied thereto, in which molecular aggregates each orienting hydrophilic

groups of surfactant molecules inward and hydrophobic groups thereof outward in a nonpolar solvent, and each contain water in which the crystalline superfine particle is enveloped; and another material complexed with the inverted micelles.

Claim 33 (Withdrawn): A complex material comprising:
precursor superfine particles used to manufacture crystalline superfine particles which emit light depending upon the time-rate-of-change of a stress applied thereto, and changeable to the crystalline superfine particles when crystallized; and
another material complexed with the inverted micelles.

Claim 34 (New): A complex material composed of crystalline superfine particles having a grain size in the range from 5 nm to 100 nm and the surface thereof is covered by surfactant and another material, and emitting light depending upon the time-rate-of-change of a stress applied thereto,

wherein Young's modulus of the complex material is 0.0001 MPa or more.

Claim 35 (New): The complex material according to claim 34, wherein the Young's modulus of the complex material is 10 MPa or more.

Claim 36 (New): The complex material according to claim 34, wherein the crystalline superfine particle has a composition expressed by the general formula $A_xB_yO_z$ where

$$0.8 \leq x \leq 1.1 \quad 1.8 \leq y \leq 2.2$$

$$\{(2x+3y)/2\} - 0.2 < z < \{(2x+3y)/2\} + 0.2$$

$$A = \text{Sr}_k \text{Ba}_l \text{Ca}_m \text{Mg}_n \quad (0 \leq k, l, m, n \leq 1, k+l+m+n=1)$$

$$B = \text{Al}_{1-p} \text{D}_p \quad (0 \leq p < 1)$$

$$D=Y_q Ga_r In_t \quad (0 \leq q, r, t \leq 1, q+r+t=1)$$

wherein a rare earth element or a transition metal element is added by 0.2 mol or less in total relative to 1 mol of $A_x B_y O_z$,

wherein the crystalline superfine particles discretely disperse in the other material.